

SUPPLEMENTARY DATA

**Identification of SLC41A3 as a novel player in
renal magnesium homeostasis**

*Jeroen H.F. de Baaij¹, Francisco J. Arjona¹, Michiel van den Brand², Marla Lavrijsen¹,
Anke Lameris¹, René J.M. Bindels¹, Joost G.J. Hoenderop¹ **

Departments of Physiology¹ and Pathology², Radboud Institute for Molecular Life Sciences, Radboud university medical center, Nijmegen, The Netherlands

Supplementary Table T1 – Primer sequences

	Forward primer	Reverse primer
<i>Gapdh</i>	5'-TAACATCAAATGGGGTGAGG-3'	5'-GGTCACACCCATACAAAC-3'
<i>Slc41a1</i>	5'-CATCCCACACGCCCTCCTGC-3'	5'-CGGCTGCCCTGCACAGCCAC-3'
<i>Slc41a2</i>	5'-TGGCATGGTTTGACATAG-3'	5'-AGCGTCATTCCAAGTTCC-3'
<i>Slc41a3</i>	5'-TGAAGGGAAACCTGGAAATG-3'	5'-GGTTGCTGCTGATGATTTG-3'
<i>Trpm6</i>	5'-AAAGCCATGCGAGTTATCAGC-3'	5'-CTTCACAATGAAAACCTGCC-3'
<i>Trpm7</i>	5'-GGTTCCCTCTGTGGTGCCTT-3'	5'-CCCCATGTCGTCTGTCGT-3'
<i>Cnmm2</i>	5'-GGAGGATACTGAACGACGTG-3'	5'-TTGATTTCTGCCCGTACAC-3'
<i>Cnmm4</i>	5'-TCTGGGCCAGTATGTCTCTG-3'	5'-CACAGCCATCGAAGGTAGG-3'
<i>Parvalbumin</i>	5'-CGCTGAGGACATCAAGAAGG-3'	5'-AGCTTCAGCCACCAGAGTG-3'
<i>Egf</i>	5'-GAGTTGCCCTGACTCTACCG-3'	5'-CCACCATTGAGGCAGTATCC-3'
<i>Ncc</i>	5'-CTTCGGCCACTGGCATTCTG-3'	5'-GATGGCAAGGTAGGAGATGG-3'
<i>Cldn16</i>	5'-GTTGCAGGGACCACATTAC-3'	5'-GAGGAGCGTTCGACGTAAAC-3'
<i>Cldn19</i>	5'-GGTTCCCTTCTGCTGCAC-3'	5'-CGGGCAACTAACACAGG-3'

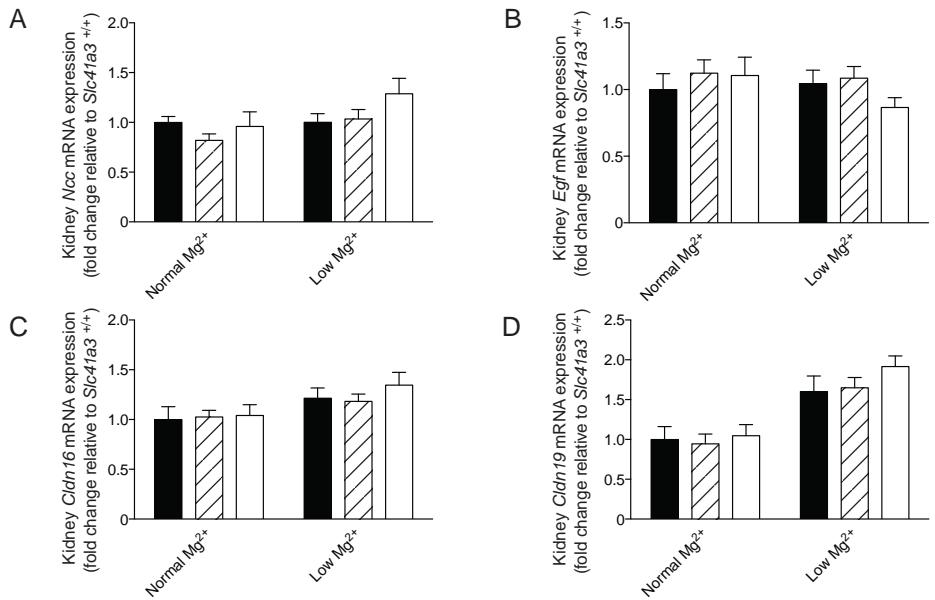
Supplemental Figure S1 – Compensatory mechanisms for the loss of Slc41a3 function in the kidney

A-D, The mRNA expression levels of *Ncc* (A), *Egf* (B), *Cldn16* (C) and *Cldn19* (D) in kidney of *Slc41a3^{+/+}* (black bars), *Slc41a3^{+/-}* (striped bars) and *Slc41a3^{-/-}* (white bars) mice fed with a low or normal Mg²⁺-containing diet for 14 days were measured by RT-qPCR. Relative gene expression was analyzed using the Livak method ($2^{-\Delta\Delta Ct}$), where results are normalized against *Gapdh* expression (reference gene). Data represent means (n=10) ± SEM and are expressed as fold difference when compared to the gene expression in normal diet fed *Slc41a3^{+/+}* mice. *P < 0.05 indicates a statistically significance compared to *Slc41a3^{+/+}* mice fed the same diet.

Supplemental Figure S2 – Brain expression of Mg²⁺ transporters

A-B, The mRNA expression levels of *Trpm7* (A) and *Slc41a1* (B) in brain of *Slc41a3^{+/+}* (black bars), *Slc41a3^{+/-}* (striped bars) and *Slc41a3^{-/-}* (white bars) mice fed with a low or normal Mg²⁺-containing diet for 14 days were measured by RT-qPCR. Relative gene expression was analyzed using the Livak method ($2^{-\Delta\Delta Ct}$), where results are normalized against *Gapdh* expression (reference gene). Data represent means (n=10) ± SEM and are expressed as fold difference when compared to the gene expression in normal diet fed *Slc41a3^{+/+}* mice. *P < 0.05 indicates a statistically significance compared to *Slc41a3^{+/+}* mice fed the same diet.

Supplemental Figure 1



Supplemental Figure 2

